

WHAT IS CLAIMED IS:

1. A hand-held computing device, comprising:
a housing sized to be held in hands of a user during operation of the device, the
housing having an upper surface defining a first plane;
a display disposed on the upper surface of the housing; and
a set of controls integrated with the housing for providing user input to a processor, the
set of controls being positioned about the housing so as to enable manipulation
by digits of the user, the set of controls including at least one analog input
device for generating an analog signal representing displacement information.
2. The hand-held computing device of claim 1, wherein the analog input device comprises
a joystick terminating at its upper end in a cap.
3. The hand-held computing device of claim 2, wherein the cap comprises a convex-
shaped top.
4. The hand-held computing device of claim 2, wherein the cap comprises a concave-
shaped top.
5. The hand-held computing device of claim 2, wherein the cap is disposed at least
partially in a well located within the upper surface such that the cap does not protrude
substantially above the first plane.

6. The hand-held computing device of claim 2, wherein the cap is disposed at least partially in a well defined by a portion of the upper surface such that the cap does not protrude substantially above the first plane.
7. The hand-held computing device of claim 1, wherein the analog input device comprises a trackball.
8. The hand-held computing device of claim 1, wherein the at least one analog input device is configured to generate first and second analog signals representative of displacement in a first and a second mutually orthogonal dimension.
9. A hand-held computing device, comprising:
 - a housing sized to be held in the hands of a user during operation of the device, the housing having an upper surface defining a first plane;
 - a display disposed on the upper surface of the housing; and
 - means for providing user input to a processor, the means being positioned about the housing so as to enable manipulation by the digits of the user and configured to generate an analog signal representing displacement information.
10. The hand-held computing device of claim 9, wherein the means for providing user input comprises a joystick terminating at its upper end in a cap.

11. The hand-held computing device of claim 10, wherein the cap is disposed at least partially in a well located within the upper surface such that the cap does not protrude substantially above the first plane.
12. The hand-held computing device of claim 9, wherein the means for providing user input comprises a joystick terminating at its upper end in a cap with a concave-shaped top.
13. The hand-held computing device of claim 9, wherein the means for providing user input comprises a joystick terminating at its upper end in a cap with a convex-shaped top.
14. The hand-held computing device of claim 9, wherein the means for providing user input comprises a trackball.
15. The hand-held computing device of claim 9, wherein the means for providing user input includes at least one potentiometer.
16. The hand-held computing device of claim 9, further comprising means for limiting force resulting from manipulation by the digits of the user.

17. A method for calibrating an analog input device of a hand-held computing device, the method comprising:

- reading a neutral value corresponding to a null position of the analog input device;
- reading values corresponding to the maximum deflection of the analog input device in a first and a second mutually orthogonal dimension;
- mapping values corresponding to the maximum deflection of the analog input device to a range of digital values; and
- computing a dead zone corresponding to slight deflection of the analog input device.

18. The method of claim 17, further comprising receiving via a digital input device a calibration initiation request.

19. The method of claim 17, further comprising prompting the user to manipulate the analog input device.

20. The method of claim 17, further comprising reading values corresponding to maximum circumferential travel of the analog input device.

21. A computer readable medium having embodied thereon a program, the program being executable by a machine to perform a method for calibrating an analog input device of a hand-held computing device, the method comprising the steps of:

reading a neutral value corresponding to a null position of the analog input device;

reading values corresponding to the maximum deflection of the analog input device in a first and a second dimension;

mapping values corresponding to the maximum deflection of the analog input device to a range of digital values; and

computing a dead zone corresponding to slight deflection of the analog input device.

22. The computer readable medium of claim 21, wherein the method further comprises receiving via a digital input device a calibration initiation request.

23. The computer readable medium of claim 19, wherein the method further comprises prompting the user to manipulate the analog input device.

24. The computer readable medium of claim 19, wherein the method further comprises reading values corresponding to maximum circumferential travel of the analog input device.